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Description

Loop Antenna Unit and Radio Communication Medium processor

This application is a 371 of PCT/JP05/17516 dated 9/22/2005.

5 Technical Field

[0001]

The present invention relates to a radio communication medium processor for supplying electric power and transmit data to a radio communication medium such as a non-contact IC card or an IC tag stuck to goods or books to be accommodated in a goods shelf to obtain receive data from the radio communication medium by the variation of a load. More particularly, the present invention relates to a loop antenna unit and a radio communication medium processor preferably used for an accommodating shelf or a display shelf in which the management of books and the management of goods can be automatically realized.

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Background Art

[0002]

Usually, a reader writer system using the IC card is ordinarily referred to as a non-contact IC card system, and has been put to practical use in a physical distribution system, a transportation system, a goods management and book management system or the like using a frequency band of, for instance, 13.56 MHz. This system includes the IC card having an IC chip and an antenna coil on one card made of a resin and a reading and writing part for communicating with the IC card. The reading and writing part is provided with a loop antenna. The electric power and the transmit data are constantly or intermittently transmitted and the receive data is obtained from the IC card located within a range where the electric power and the transmit data can be received by this loop antenna.

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[0003]

As means for increasing a communication range of the usual reading and writing part, a consideration may be made that the size of one loop antenna is increased. However, when the size of the antenna is enlarged, the sensitivity of the antenna is increased. Thus, a problem arises that the influence of unnecessary noise from a peripheral part is liable to be received and the increase of the radiation of an electric field

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